Gimme Arrays!

Newsletter for the Toronto
Local Chapter of the ACM
APL Special Interest Group
ISSN 1195-9878
Volume 2 Number 6
March 1995

Next meeting

Date Monday, March 27
Time 6:30 pm
Location 10th Floor Cafeteria (CIBC/Wood Gundy)

Address BCE Place
Canada Trust Tower
161 Bay Street

Topic *APL as a Financial Modelling Toolset (see page 2)*

Speaker Shane Chalke
Chalke Inc.

Free admission. All welcome!

Future meetings

Monday April 24
Robert Bernecky of Snake Island Research Inc. (see page 2)
Monday May 15 (t.b.a.)

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Soliton Associates — some things never change

Richard Procter

In the latest chapter of the continuing **I.P. Sharp Associates (IPSA)** saga, **Soliton Associates** brought its big guns to bear on the **Toronto APL SIG**. It presented its top-40 hit list of present successes and future developments. On hand to share this overview of Soliton's products and services with some 30 participants were **Larry Moore**, Account Executive, **Nancy Lamb**, V.P., Sales and Marketing, and **Clarke Bruce**, President.

Soliton Associates is a recently established software development company. It applies the SHARP APL language to create business solutions for the mainframe and UNIX world. Yet Soliton is also a familiar face, carrying on the successful traditions established in the 70s and 80s by I.P.Sharp Associates (where many of the Toronto APL community have worked at one time or another over

*(**Soliton** continued on page 4)*

Vector heads unite

Cameron Linton

"I used the Net as a resource—then it became the coolest thing—now it's a cool resource and a convenient communication medium." **Scott Parkinson**'s January 23 tour of some of what the Internet has to offer the APL community—to over 40 members of the Toronto APL SIG—was dazzling, fast paced, and an inspiration in its potential for the SIG and for our personal careers.

Guests lounged around the two-tier, new age **Mercer Limited** cafeteria as Scott calmly dialled a local Internet provider during the peak evening period. *Busy?* We gathered around waiting for our opportunity to leave the glass tower and wander the globe. *Busy?* Scott started the evening with a bit of personal background and a quick summary of Internet services before his practical, hands-on demonstration. *On-line!* And off we went!

Scott bought a NeXT computer

*(**Net Demo** continued on page 6)*

Congratulations Gimme Arrays!

Gimme Arrays! has won the Society for Technical Communication award of achievement in the 1994-95 Toronto publications competition. The awards ceremony will take place at the luncheon at the STC 1995 Professional Development Day (see Calendar).

APL as a Financial Modelling Toolset

For the Monday, **March 27** meeting, the **Toronto SIG APL**, in conjunction with the **Society of Actuaries**, is pleased to present **Shane Chalke** of **Chalke Inc.**, Chantilly, Virginia. Topics that Shane Chalke will cover include:

- APL as used historically versus APL in the modern world
- Encapsulation as a key to APL success
- APL in a multi-developer environment
- Is APL a "good citizen"?
- Object-Oriented APL
- The future of APL

***Shane A. Chalke** is Chief Executive Officer of **Chalke Incorporated**. Since founding Chalke Inc. in 1983, Shane Chalke has specialized in the financial analysis of insurance companies, both for performance assessment and mergers and acquisitions. He has lectured extensively on macro pricing theory, asset/liability management, and balance sheet restructuring, and has written numerous articles for prominent industry publications. Shane Chalke is Vice President of the Society of Actuaries and past Chairman of the Product Development Section.*

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Portable Parallel Performance with APL

(For the Monday, April 24 meeting)

APL interpreters have a performance problem. Although APL interpreters offer an excellent rapid prototyping environment, their poor performance compared to compiled languages has limited the use of APL in large and computationally intensive applications. APL's abstract semantics permit programmers to express algorithms in a natural way that is inherently parallel, because APL reflects the way we think. APL seems a natural choice for programming parallel computers because of its abstract nature. But, if performance remains poor, APL cannot be an approach taken to obtain the potential performance benefits of

(***Performance** - continued on page 12)*

Gimme Arrays!

Submitting Articles

The editorial staff encourages submission of articles for publication. We prefer to receive copy in electronic form via e-mail or on a floppy disk to the editors. Hard copy or floppy disk may be given to the editorial team at any of the meetings or sent to the Toronto ACM SIGAPL address. We reserve the right to edit copy. Deadline for submissions is the meeting each month. ***Gimme Arrays!*** is your newsletter, and your contributions are welcomed. The opinions expressed herein are those of the authors and do not necessarily reflect the opinions of the Toronto SIGAPL membership or executive.

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Toronto Special Interest Group on APL

Meetings

Start at 6:30 and are generally held on the fourth Monday of the month, from September to November and January to May.

Location

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BCE Place (Canada Trust Tower)
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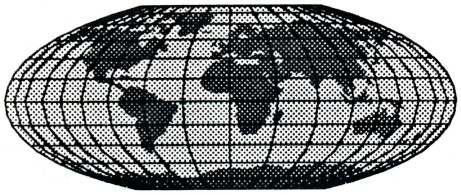
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Around the World:

SIGAPL links you to the Web

Kirk Iverson

The explosion of World-Wide Web sites is reshaping the face of the Internet in both an evolutionary and revolutionary manner. Evolutionary in the sense that traditional resources and protocols on the Internet are supported by most browsers. Revolutionary in that a single user interface pushes multiple protocols under the covers. It allows users to view the world of the Internet as an almost cohesive continuum.

The popularity of Web browsers can be attributed to their relationship to several expanding fronts:

- graphical user interfaces,
- electronic publishing, and
- the flood of individuals finding inexpensive access to the Internet.

To take advantage of this communications medium, **ACM SIGAPL** has begun construction of a set of Web pages. They will help interested users navigate through the APL- and J-related materials on the Internet. These pages contain pointers to:

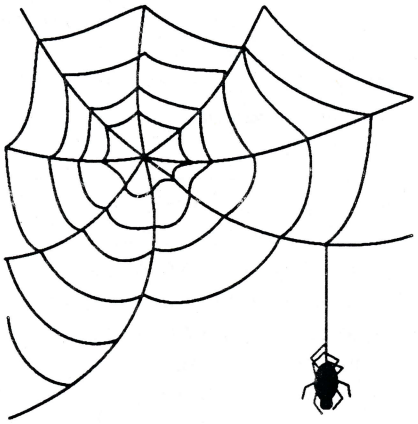
- resources on the Internet,
- information on the **APL95** conference, and
- the APL White Pages.

Plans for the future include:

- information on past conferences (abstracts, keyword lists, etc.),
- a commercial listing for vendors and suppliers associated with APL,
- standards information, and
- online SIGAPL enrollment.

Your suggestions are welcome. Aim your browser at the address http://www.acm.org/sigapl to find the SIGAPL Web Pages.

One of the major areas of the **SIGAPL Web Pages** that needs your contribution is the APL White Pages. Created a year ago by **Mike Kent,** these pages are a directory of individuals who have an interest in APL or J. Since the project started, over 250 people have joined. The complete list is emailed to members occasionally. It has expanded much since its initial formation. Now, its forum is changing as well.



In the SIGAPL Web Pages, the White Pages allow people connected to the Internet to look up your name and the information which you have chosen to include:

- primary and secondary email address,
- Web home page,
- postal address, and
- telephone numbers.

Entries in the White Pages that are marked as public will show up in places like the SIGAPL Web Pages. Otherwise, they are available only to existing members of the White Pages.

If you've already joined the White Pages, your information is still considered private, and will not be published on the Web. If you'd like to make your White Page info available to everyone, send me a message (kbi@io.org) to let me know your entry can become public.

If you haven't already joined the White Pages, instructions can be found at the SIGAPL Web site or FTPd from the Waterloo Archives (archive.uwaterloo.ca:/languages/apl/white.txt). If you don't have appropriate access to the Internet, send me a message and I'll send you a form to fill out and return.

So have a look at the SIGAPL Web Pages and let me know what you think. Remember, the purpose of these pages is to help the APL community locate and make use of resources existing on the Internet. If you know of any resource, or wish to contribute something, please drop me a line.

***Kirk Iverson** has been writing APL code and APL interpreters for the last 15 years. He has worked at I.P. Sharp Associates and Reuters for much of this time. He is now an independent consultant based in Toronto. Kirk is the ACM SIGAPL Information Director. He can be reached at kbi@io.org, kbi@acm.org, or CIS:74361,3602.*

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Respected periodicals

A **Toronto APL SIG** member is having problems with the Post Office not delivering his mail. Our member has been complaining to the Post Office that he is not getting his **Gimme Arrays!** or his copy of **The Economist**. **Gimme Arrays!** should be proud that it is up there with such other well-respected periodicals!

(*Soliton continued from page 1*)
the years). Some things never change.

Soliton came to life in 1993 by taking over the "in-house" customers of **Reuters Ltd.**, formerly a major part of the I.P. Sharp business. Soliton now serves some 35 distributed software sites from its Toronto headquarters, and from offices located in Rochester, Amsterdam and Coventry. It provides its customers with a steady stream of product enhancements, training, system tuning, 24-hour support, and "open-systems/open-access" business solutions incorporating its SHARP APL/UNIX product.

Soliton's presentation moved on to describe developments with its SHARP APL mainframe product (an APL interpreter with its own unique MVS environment shell). Recent improvements include performance enhancements, a file system caching mechanism, operating system changes to improve "up-time", an "intrinsic" function facility/library (special assembler code wired into the interpreter), and "accessibility" enhancements. While accessibility was previously limited to connectivity between SAPL/MVS machines, it now extends to connecting APL tasks with non-MVS environments. It enables inter-process communication between SAM and other tasks such as QSAM, VSAM, DB2 databases, UNIX middleware and RDBMS products, and even Windows/PC applications. Enhancements to Soliton's auxiliary processor

"The dynamic duo of SAM and SAX can provide...large and

technology removes the previous requirement for each machine to also run the SAPL environment in order to communicate.

On the UNIX side, Soliton is addressing the growing demand for client/server business solutions, by emphasizing its SAX offering as a typical, industry-standard, "open-access" product, able to integrate into any UNIX environment: "just a UNIX process like any other." This standardized, open connectivity approach is the key in addressing the former bias against SHARP APL: a product that had its own operating environment. "Standard open-systems" technology is now *de rigueur* in this market.

Existing mainframe applications can be ported to the UNIX environment relatively painlessly. The two APLs (SAM and SAX) are highly compatible. This fits in nicely with the global trend to downsizing and decentralizing computing operations. To demonstrate these concepts, the audience was dazzled with a flurry of "connectivity" diagrams, showing how machines from mainframe to PC "talk to each other" (share data) in real-time across networks.

*Soliton's representatives will be at **APL95** to demonstrate its products and services. The **Toronto APL SIG** is grateful to Soliton Associates for providing the SIG executive with support in the form of Internet e-mail access, allowing us to keep in touch with members and colleagues worldwide.*

"We have to stop thinking of APL as an island," said Clarke Bruce, using this metaphor to drive home the point that Soliton's business focuses on providing a solution which integrates easily with existing systems. Soliton's customer base includes the oil, insurance, and banking industries.

The dynamic duo of SAM and SAX can provide large companies with both the centralized number crunching for "power" users and the more cost-effective client/server solution for "casual" users. It has a wide range of possible configurations up and down this continuum, all of which share common data and resources. In one example, users were moved from mainframe to client/server environment "without knowing what hit 'em." This was a totally seamless move which enabled the system administrator to swap at will users from one environment to the other.

"SAX...just a UNIX process like any other."

Soliton emphasized that its commitment to APL is as solid as ever. Its focus—in the short-term—is on getting a proper foothold in the marketplace by addressing the needs of clients in terms of openness and connectivity and other parts of the typical dataprocessing environment. Soliton's mandate is to "extend the reach and reach-ability" of APL by meshing with all popular platforms. In the longer term, the presenters hinted at possible interesting directions such as: an "APL engine," APL for massively-parallel architectures, and support and enhancements for the existing APL customer base.

Finally, where did the name "Soliton" originate? The physical phenomenon was first documented in 1834 by Scott Russel, while watching waves travel along a canal. It was not until 1964 that non-linear waves with certain properties were named solitons. Described in Heinz Pagel's book, *The Dreams of Reason: The Computer and the Rise of the Sciences of Complexity*, the name was one of several popular among Soliton's original shareholders that also passed the legal smell test.

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(*Net Demo* - *continued from page 1*)
in 1992. Shortly after, he decided he wanted to run APL on it. A message to comp.lang.apl brought back three replies in 12 hours—two from the USA and one from Europe. Soon Scott had APL and J running! He was so impressed with the immediate turnaround to his question, it made him realize how valuable it is to be wired to the world through the Internet. Scott then adopted the Internet whole hog, to become the Internet guru we know him as today.

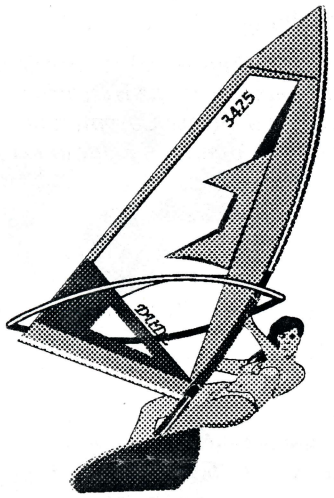
The Internet evolved as a research project to maintain a computer network that would survive a war. The Transmission Control Protocol/Internet Protocol (TCP/IP) was the result. It is still the foundation of the Internet. Each computer on the network has an IP address. TCP/IP breaks transmissions into packets which can be routed through the network and pieced together again at the receiving end. The computers can be thought of as resources containing information that can be freely acquired.

On top of the Internet a variety of services exist for delivering information from these resources:

- **E-mail** and **USENET** permit one-to-one discussions and group discussions of a common theme.
- **Archie** is a facility where you can search keywords to find services.
- **FTP** (File Transfer Protocol) enables you to download files from an FTP site or a computer that acts as a server.
- **Telnet** is similar to FTP but you must first have an account on the host machine.
- **IRC** is the Internet Relay Chat facility. It facilitates real-time discussions between people connected to the same host or different hosts.
- **WWW** is the World-Wide Web which provides an interface to permit easy navigation of the information and resource computers.

Where do you start when you want to find information? Try Archie, then the Frequently Asked Questions (FAQs) since your need may be just one of those questions that are asked all the time. Scott even used the APL FAQ to track down fellow "vector heads" at the Toronto SIG.

We are all pretty familiar



with e-mail (over half Toronto's members have e-mail accounts). USENET is slightly different. With Scott's interface we dropped in on a few recent messages to some of the over 8000 USENET groups including alt.fan.frank-zappa, rec.games.bridge, and comp.lang.apl. Learn your netiquette ("etiquette on the Net"), so as not to commit a *faux pas* when talking to fellow Netheads.

At the beginning of the meeting I handed out a paper mailed to the Toronto SIG by our friend **Keith Smillie** in Edmonton. Scott couldn't understand this. "Get with it Cam...that paper is on-line." Scott's first FTP demonstration was to sign on anonymously to ftp.cs.ualberta.ca and grab the file /pub/smillie/intj.ps.

Lee Dickey maintains the main APL archives at Waterloo University (ftp://watserv1.uwaterloo.ca/languages/apl/). **Sam Sirlin** also has an anonymous FTP site csi.jpl.nasa.gov where you'll find zipped workspaces in pub/apl/ws/stsc. Sam also maintains the APL FAQ.

For a diversion we dropped into the IRC for the host that Scott uses. We don't know who was signed on at 19:30 on a Monday evening. But their opinion of APL was that it was 'evil', 'iconic', and the 'anti-C++.'

The other main facility that Scott demonstrated was the World-Wide Web, line mode style. First stop was **Steve Halasz**'s **APL95** site with Uniform Resource Locator (URL) http://www.interaccess.com/users/sjhalasz. Steve had some information on:

- his **APL95NET proposal** (see **Gimme Arrays!** of January 1995),
- a pointer to the SIGAPL WWW page,
- the Waterloo APL archives, and
- an APL2GIF facility.

Before leaving Steve's page we read some of his poetry including "What is a Man."

Though we didn't surf to them, Scott described two other very important sites: one that carries live video footage of the waves off a California beach (so that you can plan your afternoon); and stats on a coke machine in England (so you know if there's any pop left). But we did surf to Security APL (http://www.secapl.com/cgi-bin/qs) to get the latest real-time quote price for **Reuters**.

For his demo, Scott used a line-mode terminal interface. If he had his druthers, Scott would use his UNIX shell command line mode. The Internet evolved from UNIX, and FTP is simply a

(*Net Demo* - *continued on page 7*)

(*Net Demo* - *continued from page 6*)
UNIX command.

We then took a 10-minute donut break while we switched to running **Netscape** in Windows over a Serial Line Internet Protocol (SLIP) connection. Netscape is a Web browser—a facility for viewing Web pages and associated files. The March 1995 issue of **Wired** (a recommended magazine for Netheads) describes Netscape as "the *de facto* standard for serious Webheads."

SLIP is the preferred connection if you intend to download lots of information. With a SLIP connection to your Internet provider, you are connected directly to the Internet. Requests and replies are passed to and from the destination host in real-time without the need for intermediate storage or management, as was the case with Scott's terminal line mode connection. Files are transferred directly to your workstation where you can view them locally using a variety of tools including Netscape, **Mosaic**, and even **Word for Windows**.

To wrap up, **Henri Schueler** discussed the costs of and facilities available from Toronto area Internet providers. Henri said there are about ten providers—all of which can be found in papers like **Toronto Computes!** He recommends that you not use the provider he is associated with, just so you don't tie up a modem port when he wants to use it!

Most providers require you to pay an installment and then draw on your account as you use the service. You should be able to get the service you want for about $C25 per month. When you compare the enjoyment that you will get from the Internet to watching Cable TV, it is easy to justify the similar cost!

The final APL item we surfed to was our own Toronto SIG WWW home page (http://www.sigapl.mtnlake.com/sigapl/welcome.html). **Richard Procter**, Toronto's Information Coordinator demonstrated Toronto's home page. The page was very much in its early days then. The concept continues to evolve (see **Gimme Arrays!** February issue), and we are still collecting feedback from our members. Please offer us your further comments on our plans! We will have a progress report in our April issue which incorporates the additional feedback we have been receiving.

***Scott Parkinson** is Vice President of Finance with the Hutchison Avenue Software Corporation based in Montreal. Prior to his job at Hutchison, Scott spent two years as an actuarial student with **William M. Mercer Limited**. Educated in Actuarial Science at the University of Waterloo, Scott is close to completing his fellowship and is enrolled in the CFA program. He is also the Technical Subcommittee Director for the CIA Internet Task Force, a task force established to bring services to actuaries using the Internet. Scott is a former APL user and a new J devotee. Scott can be reached at scott@hasc.ca.*

Cameron Linton** is currently chair of the Toronto APL SIG. He works in Reuters Information Services Division. He can be contacted at: **crl@ipsalab.tor.soliton.com.

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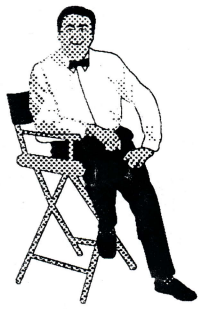
Gimme a nice comment or two

"**Gimme Arrays!** is a nice, chatty publication. You can be proud of it."

Tony O'Hagan
University of Nottingham, England.

A new player takes the world APL stage!

Causeway Graphical Systems was formed late in 1994 by **Adrian Smith** and **Duncan Pearson** with a number of objectives in mind. Firstly, we intend to use the Causeway environment to write decision-support tools faster and more cost-effectively than anyone else. We already have at least 18 months work agreed with the German giant **SAP** (the sixth largest software company in the world) developing configuration tools and Windows front-end applications for their R/3 Unix-based systems. We are convinced that the Causeway architecture gives us a real technical edge, and we intend to exploit it to the best of our ability.



Secondly, we will work with both individuals and major APL sites to implement and support the Causeway environment for others to use. We will tailor a training and support package to the needs of each organization. Typically we expect a large APL site (possibly a mainframe user moving to Windows) to take out an annual contract. We would guarantee to keep their platform in good order, and would supply an agreed number of days of on-site training.

Until **APL95**, we will be working hard to bring Causeway for APL*PLUS III up to the same level as the Dyalog/W version, and to complete the manuals, reference cards and other essentials that we will need to demonstrate to our customers that this work is now on a truly professional footing. See you at San Antonio!

Dyalog APL/W Version 7.1 is the one!

Robert Byers

*A formal announcement for version 7.1 appeared in the January 1995 issue of **Gimme Arrays!** at the same time as my review of version 7.0. The purpose of this update is to tell you about my experience with a late beta version of 7.1.*

In March 1995, **Dyadic Systems Limited** will release version 7.1 of APL/W. This will be a free upgrade to registered 7.0 users, and is the second upgrade mailed to users. It is primarily a maintenance release but it also includes some good, new features.

Version 7.0 introduced many new graphical user interface (GUI) features and leading edge tools to APL (ie VBX and ODBC support). Not surprisingly, a product that offered so many new features had some bugs. Version 7.1 makes up for these short-comings. The latest beta is very, very stable. In addition, new features and enhancements will allow you to take advantage easily of developing or working in the Windows environment.

Since my department, the **Capital and Operating Grants Administration** in the **Ministry of Education and Training,** converted to **Dyalog APL/W** as our main development environment about 18 months ago, we have migrated from APL2 mainframe and APL*PLUS II to APL/W with impressive results.

I have still not mastered all the potential of namespaces but Dyadic is extending this innovative feature in 7.1 and has big plans for future releases.

In 7.1, the extensions to namespaces include a new system function (`⎕CS`) which allows you to move in and out of namespaces under program control. In addition, namespaces and GUI objects can now be saved in an APL component file or workspace. This makes it fast and easy to reload and re-use namespaces and any functions and variables associated with the namespace. GUI objects, which are also namespaces, can be stored and retrieved just like all other namespaces. Dyadic points out that namespaces will allow APL developers to develop class libraries in the future.

The native grid object has been extended in a number of ways. These include easy cut and paste between the grid and any other Windows application. Re-sizeable properties for columns/rows, and combo objects can now be incorporated into the grid cells. I really like the grid object, and find it a great way to display two-dimensional data in an application.

Other features include drag/drop editing with the mouse between functions and the session manager, improved VBX (Visual Basic Extension) support, new Windows help files. They also hope to be able to ship a revised `WDESIGN` workspace that gives APL/W a Visual Basic look.

Dyadic Systems is working on the next release of APL/W to coincide with the release of Windows 95. APL/W will qualify for the Windows 95 logo which means that features like OLE 2.0 etc. will soon be here.

This is great product getting better all the time. If you are considering moving to a Windows-based APL you should check out APL/W for yourself. Free evaluation copies are available from The Braegan Group Incorporated. Call them on +1 (416) 366-6363.

***Robert Byers** works for the **Ontario Ministry of Education and Training** in its Capital and Operating Grants Administration Branch under School Board Operating Grants. The Ministry uses a number of APL interpreters and other software in its day to day work. Robert can be contacted at rbyers@ibm.net or at 73043.1745@compuserve.com.*

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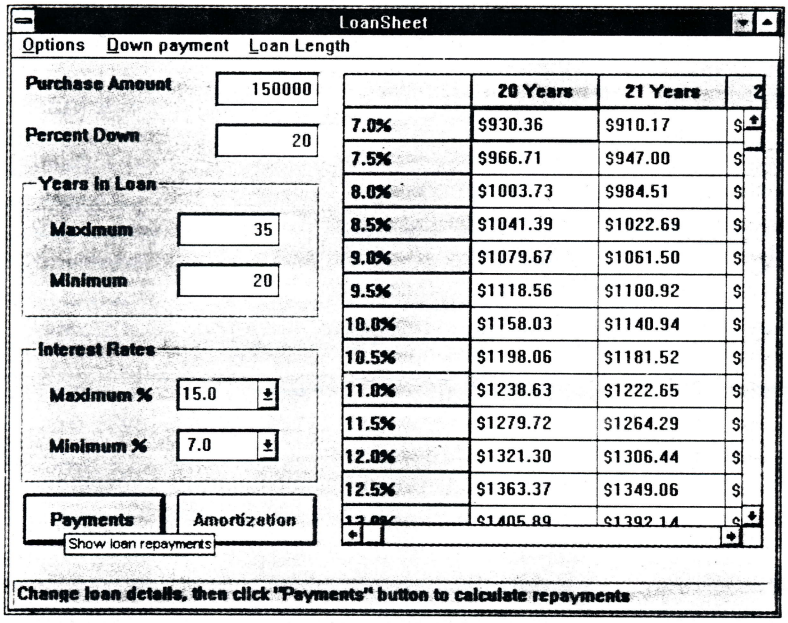
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That's why Dyalog APL/W remains the professional choice. For a free trial copy, contact Dyadic or your local distributor today.

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CyberCool—Surfing the Net

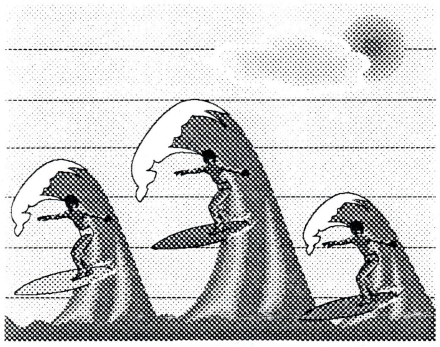
Richard Procter

Remember the joke. At some point in the distant future, scientists and governments on earth—and on all the other planets and star systems in the known galaxy—finally link up all the computers there are into one giant electronic brain.

At an elaborate ceremony, with much fanfare, an important dignitary throws the final switch to put the whole network into action. The entire universe watches with anticipation. On its screens, the dignitary clears his throat and poses the first question to this now omniscient electronic being. "Tell us, O universal computer, is there a God?" The vast control panel of the computer network begins to whirr and click, lights flashing, reaching across the heavens for an answer, deep in thought. Suddenly, out of nowhere, a lightning bolt strikes the control panel and fuses the computer's on/off switch into a melted glob. As the shocked crowd jumps back in fright, a sinister voice emanates from the computer and delivers the answer to this eternal question: "Yes. *Now* there is!"

One day last January, our good friend Rudy Wortel at **Alias Research Inc.** sent Cameron Linton and me e-mail. It read something like this: "Hey guys, you gotta get over here and check out this surfin' on the 'net! It's really cool!" Knowing that Rudy was not the kind of guy to get outwardly excited about anything, this, we thought, must be something. So, off we went one evening, to Rudy's office for our first peek at the world of cyberspace.

Our evening of surfing the **Internet** started with a trip in more ways than one. As long-time fans of single-malt Scotch, it was only logical that our first stop in this world sight-seeing session would be.....*ta da!* the **Malt Whisky Tour of Scotland**. A click of the mouse on Rudy's bookmark list and, in a flash, your two wide-eyed cyber-novices were staring at a fascinating page of text and graphics beckoning us on a tour of the whisky distilleries of Scotland. We already knew many of these by taste, now we could look up a host of facts and figures for each site, check out the premises, learn about their history, and find out about products of which we were not even aware. Wow!



At first I could not believe what I had just seen. Did this computer sitting on the desk in front of us really reach out over the Atlantic and grab a 10K "packet" of text and images in just a snap of the fingers? No way! It was too fast, too easy. "Let me see that again," I said. "No sweat," said Rudy. He clicked on the **Cool Site of the Day**. In a few seconds, up came a colour image of some vast frozen wasteland. "Oh, I get it, *cool!*" We all chuckled. After the initial joke, we realized the page also has hypertext links to other Web pages, previous *cool* sites. And on it goes....

At a top speed of 56Kbaud, surfing at Alias was a breeze, thanks to its direct UNIX hookup to the Internet. In fact, Alias itself had been nominated a cool site of the day. Its machine took thousands of "hits" that day from people all over the world browsing the Net to see what is new and exciting.

Cam had his own cool ideas. The **Virtual Railroad** was our next station stop, facts, figures and colour artwork on those mammoth locomotives that make a steam-engine-lover's whistle toot. It did not do much for me, I'm afraid. Still, as an example of the power or, at least, the entertainment value of the Web, this was a great trip so far.

For something a bit more to my liking, I asked Rudy if he knew of any environmental sites. Seconds later he pulled down a 43K info-slice from **Greenpeace**'s Amsterdam Web site, including Greenpeace ship movements, press releases, and latest news. It even had electronic versions of the paper factsheets I used to shuffle at Greenpeace's office here in Toronto as a volunteer letter-answerer. "Hey, now we're getting somewhere." *This* was cool.

The Internet is a suspension of reality. I found that browsing the Net, specifically the World-Wide Web (WWW) part of it, was an amazing experience. You don't just look at info and pretty pictures, you go there, whether it is the local university, the national archives, or some obscure and totally non-commercial bizarre corner of the world you have never heard of before. You find yourself asking "Why is this stuff here? Who put it there, and why?" The Web-Browser, with its hypertext links that zip you around the world in seconds, is the key. You don't have to know where to find something, you just click, and one click leads to another and another. After a couple of hours lost on the Net, you come back to reality and ask "How did we get here?" No wonder they call it surfing. Catch a wave and ride it, see where it

*(**CyberCool** - continued on page 11)*

(*CyberCool - continued from page 10*)
takes you. Being a cyber-junkie is definitely an occupational hazard.

Back to practicality, we cruised over to the **ACM**. After some furious clicking, Cam finally managed to "find himself." At the Web address: http://info.acm.org/chapters, we found Cam's name and e-mail and a reference to the Toronto APL SIG. At that point, a light bulb went on. "...Hey, the Toronto SIG could do this! We could post news, announcements, past newsletters, files to download, wow!...but wait, hasn't Lee Dickey already done that at Waterloo...yeah, let's see what he's got there..." Click click click... we found the Waterloo site. A page called: ftp://watserv1.uwaterloo.ca/languages/ listed only one computer language. You've guessed it, APL. We zoomed in to find a familiar looking list of notes, workspaces, J info, and all those goodies.

Cam and I had seen references to this stuff before in the comp.lang.apl newsgroup, so we knew it was out there somewhere, but to finally reach out and grab it, so easily, brought it all home in terms of how useful the Net could be for the exchange of ideas and information. A few days later in an e-mail, I wrote that Cam and I "had seen the future, and it was a WWW site for the Toronto SIG" ... ongoing electronic distribution of our information through a slick, centralized, comprehensive and up-to-date bulletin board that anyone interested in APL could read.

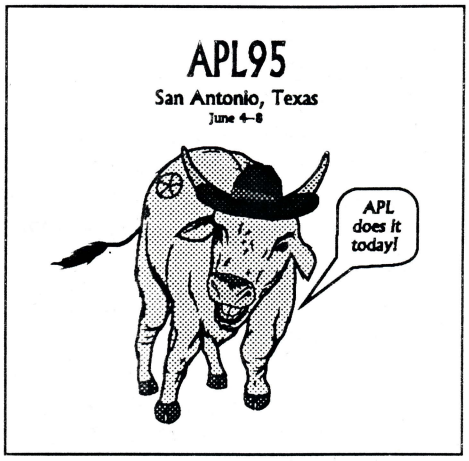
Hypertext and "whatever magic" that runs the Net, we realized, would allow us to set up a Toronto service, and link it to all the other APL sites in the world, current or future ones being developed. Awesome. This way there would be no duplicated efforts, no wheels to reinvent. My mind was reeling. Free APL interpreters and workspaces for students of the language; the Toronto Toolkit, ready to download; the Toronto Skills Database, job information for job seekers; newsletters—a break from the tedious tasks of formatting, publishing, photocopying, folding, stamping and mailing for our dedicated editor and her team.

Some cyber-heads who have been online for years contend that the Net and WWW are over-hyped. Well, perhaps. But having what seems like a world-wide library at your fingertips, I think is something to get excited about. It's fun, it's fast, it's cool. While the depth of information online may not yet be serious competition for a real library, the real power of the Net is its immediacy. As an example, you only have to surf to **Security APL**'s stock quotes page and pull up some of today's stock prices to see what I mean. And that's just the beginning.

Richard Procter, of AUSCAN Software Limited, is a consultant specializing in APL programming, document imaging systems, and electronic information. He can be reached at: rjprocter@ipsalab.tor.soliton.com.

Net sites visited

http://www.dcs.ed.ac.uk/staff/jhb/whisky/ = Malt Whisky Tour of Scotland
http://gpu.srv.ualberta.ca:80/~ybeaudoi/Virtual_Railroad/steam.htm = Virtual Railroad
http://www.greenpeace.org = Greenpeace
http://www.infi.net/cool.html = Cool Site of the Day.
http://www.acm.org/ = ACM - various info
ftp://watserv1.uwaterloo.ca/languages = Waterloo APL and J archives
http://www.secapl.com/cgi-bin/qs = Security APL Quote Server
http://www.alias.com = Alias Alian Nation



APL95 dates for your diary

If you missed the deadline for paper submissions to APL95 but would still like to be involved, here are some dates for your diary. The Invitation and Preliminary Program out now. Act today!

April 5	Send in software
April 7	Last early bird registrations
May 1	Send in poster submissions
May 26	Deadline for SIG enclosures (newsletters, pamphlets) in conference package

Send your ideas and materials to APL95, PO Box 210367, Bedford, TX 76095, USA. Other points of contact include APL95_info@acm.org and APL95_conf@acm.org.

*See the **Calendar of Events***

◇

"That was a nice review of APL94 in Gimme Arrays! I especially appreciate it since I couldn't go to the conference myself. I was glad to see that you found it worthwhile. Perhaps we'll meet at APL95!"

"Rick, enjoyed your *Lend a Hand...* piece in **Gimme Arrays!** Nice of the editors to add a little bio at the end.

Curtis Jones
San Jose, California, USA.

(*Performance continued from page 2*)
parallel computers.

Should we abandon array languages like APL due to their poor performance? Should APL, in turn, abandon users to "inhuman" languages such as C? Consider that:

- Compiled APL can achieve performance that is competitive with languages like FORTRAN and C. A straightforward coding style in Compiled APL may outperform straightforward coding in more primitive languages, because the APL Compiler is able to take advantage of the abstract expression of algorithms and exploit machine resources in an optimum fashion.
- Compiled APL offers good speedup on parallel systems. Unlike other languages which require users to embed machine-specific parallel constructs in the application (mixing the algorithm and its implementation), APL's inherent parallelism provides a tool for parallel computer use that does not require knowledge of the target architecture.
- Compiled APL achieves portability of applications between serial and parallel computers with no changes to the application source code.

Robert Bernecky has designed and developed an APL Compiler that achieves these goals. Currently still in research and development, the Compiler has proven that Compiled APL can be an effective tool for parallel and traditional computing, and can compete with any compiled language.

This seminar will present:

- a rationale for Compiled APL
- an overview of the compiler
- language extensions studied in the course of compiler research
- a look at some of the code generation techniques and algorithms used in the compiler
- benchmark results of Compiled APL against interpreted APL and FORTRAN 77 on SUN workstations, parallel supercomputers, even a PC, and
- the relevance of Compiled APL to the mainframe and client-server market.

***Robert Bernecky** is the founder and CEO of **Snake Island Research Inc.** Bob has designed and implemented APL systems since 1971. He is the Program Chair for **APL95**, Member at Large of the **SIGAPL** Board, and a member of IEEE and the ACM. He holds a B.Sc. in Philosophy and is completing an M.Sc. in Computer Science at the University of Toronto. He was Director of Research and Manager of APL Development at **I.P. Sharp Associates Limited** until 1990.*

Calendar of Events

Local

April 1, 1995

Communicating by design. Professional development day with workshops and luncheon awards presentation. Sponsored by the Society for Technical Communication (STC). Cost: $95 for STC members, otherwise $120. Contact: Fax (416) 784-6370, Attention Stephanie Copp.

April 4, 1995

On drawing graphs nicely. David Harel, Weizmann Institute of Science. Professor Harel presents a two-stage graph drawing system for general undirected graphs with straight-line edges. Sponsored by the Department of Computer Science, University of Toronto. Time: 11:00am - 12:00pm. Location: Room 1105, Sandford Fleming Building, University of Toronto, 10 King's College Road, Toronto. Free.

April 12, 1995

IBM User Centred Design. Karel Vredenburg and Rick Sobiesiak, IBM. Sponsored by the Toronto Regional chapter of ACM SIGCHI (ToRCHI). Time: 7:00pm - 9:30pm. Location: Room 128, TowerTwo, IBM Canada Laboratory, Park Centre, 895 Don Mills Road (at Green Belt Pkwy, two blocks north of Eglinton Ave. East), Toronto. Free to ToRCHI members, otherwise $3 at the door.

July 16-25, 1995

The International Mathematical Olympiad. For high school mathematics students from seventy-five countries. Location: York University, North York, Ontario. Contact: **Richard Brown** at Richard.Brown@mathstat.yorku.ca. Phone (416) 736-5250. Fax (416) 736-5757.

International

June 4-8, 1995

APL95: APL Does It Today. San Antonio, Texas. Sponsored by ACM SIGAPL. Contact: APL95_info@acm.org, APL95_conf@acm.org, or APL95, PO Box 210367, Bedford, TX 76095 USA. See page 11 for important dates.